

SOME SPECIES OF THE GENUS *LEUCOSPIS*.¹

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The recent paper by Mrs. Weld² has encouraged me to undertake the identification of the species of *Leucospis* which have accumulated in my collection. Among these are several undescribed forms of which descriptions are given below, together with a few notes on known species, mainly in regard to their geographical distribution.

***Leucospis birkmani* sp. nov.**

♀. Length 12.5 mm. Black, with yellow and ferruginous markings and strong metallic reflections. The yellow is distributed as follows: antennal scape; median round spot near anterior margin of pronotum; entire posterior and lateral margins of pronotum; transverse band on mesonotum just before base of scutellum; four anterior knees; triangular spot at base of hind femur below and band along apical two thirds of upper edge; outer two thirds of hind tibia and extreme outer tip of hind coxa. The ferruginous markings include the base of antennal scape; tegulæ; inner side of front femora and their tibiæ and tarsi; middle legs; hind coxæ, except lower surface; inner margin of hind tibiæ and their tarsi entirely; sides of propodeum; middle of first abdominal segment above and the elongate ventral plates of the abdomen. Face finely punctate reticulate; inter-antennal projection with a strong median carina; narrowest width of face clearly less than its height; malar space one-third longer than the second flagellar joint; ocelli on a distinctly elevated tubercle, the paired ones as close to one another as to the eye margin; occipital margin prominent medially, as high as the ocellar tubercle; vertex rather finely punctate, confluent so in front; occiput irregularly reticulate, aciculate only near the middle. Antennæ with the second and

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²Clara Jamieson Weld, Studies on Chalcid-flies of the Subfamily Leucospidinae, with Descriptions of New Species. Proc. U. S. Nat. Mus. Washington, vol. 61, art. 6, 43 pp., 1922.

third flagellar joints clearly longer than wide, those beyond becoming quadrate and then distinctly transverse; inner eye-margin not emarginate. Pronotum without trace of a transverse carina, its surface densely, coarsely, separately punctate, the posterior yellow band smooth, except at the sides; mesonotum more irregularly so, with some of the punctures confluent, especially at the sides; scutellum strongly convex, more shining, with well separated but shallower punctures; post-scutellum broadly crescentic, coarsely reticulate with a smooth raised margin. Propodeum medially as long as the postscutellum, with a median carina that is strongly raised behind; lateral and apical carina distinct, the surface between reticulate coarsely at the sides, very finely near the middle. First abdominal segment scarcely one-half longer than wide, narrower toward base, its dorsal grooves broad and shallow, the sides coarsely sparsely punctate at base and very densely and finely so at apex; abdomen considerably widened beyond the first segment, the fifth (the one preceding the base of the ovipositor) fully one half wider than the first; apex narrowly rounded; fourth segment with moderately coarse, well separated punctures at the base, becoming shagreened on the apical half; fifth coarsely punctured on its basal three fourths, with the apex very finely punctate or shagreened; following segments coarsely punctate, much more closely so above. Ovipositor reaching the tip of the scutellum. Propleuræ finely closely punctate below, shining and obsoletely punctate reticulate above; mesopleura, metapleura and sides of propodeum increasingly more coarsely and sparsely punctate. Hind coxæ entirely shining, finely and densely punctate on the underside; sides below confluent punctate, above with separate punctures and with a small smooth space near the upper angle; upper edge thin and sharp behind, without tooth. Hind femur shining, very minutely and closely punctate above, more coarsely and sparsely below, the punctures widely separated on the lower edge; length distinctly more than twice the width; basal tooth the largest, but not conspicuously enlarged, followed by nine much smaller ones of which those near the basal tooth and at apex are more minute than the intermediate ones. Anterior wings distinctly infuscated on their anterior half.

The metallic reflections on the body are mainly green, noticeable on the head in the antennal grooves, vertex and occiput, on the under surface of middle and hind coxæ, the apices of first, third and fifth abdominal segments and upper side of propodeum. On the face and front of vertex there are some purplish reflections.

Type from Fedor, Lee County, Texas (Birkman). The species is named for its discoverer, the Rev. G. Birkman whose collections have added greatly to the knowledge of the insect fauna of this portion of Texas.

This species will run to *L. cayennensis* Westw. in Schletterer's key (*loc. cit.*) and also in the one given by Weld (*loc. cit.*, p. 8) but differs by the punctate hind coxæ, distinctly clavate abdomen and maculate thorax. From *L. distinguenda* Schletterer, the much longer ovipositor will serve readily to distinguish it.

It is a surprise to find this large fine species undescribed and I had thought that it might be regarded as a northern subspecies of *L. cayennensis*, but there are so many striking differences that it can hardly be regarded as such.

***Leucospis muiri* sp. nov.**

♂. Length 8 mm. Black, with yellow markings and some fulvous or ferruginous ornamentation. The lemon-yellow is as follows; scape of antenna; a broad transverse band on pronotum, curving forward and attaining the anterior margin at the sides; a streak above each tegula and a pair of discal spots on mesonotum; scutellum, except large triangular spot medially in front; transverse streak on postscutellum; large spot above on mesopleura; large triangular one above hind coxa; first abdominal segment above, except basally and at sides before apex; two transverse bands on gaster, the first quite narrow. The tegulæ and second and third joints of antennæ are ferruginous and the body spots are more or less margined with ferruginous. Legs blackish basally but yellow and ferruginous beyond; the outer tips of four anterior femora and lower edge of hind femur yellow; remainder of femora and tarsi entirely ferruginous, except that the hind femur is black along the middle and

its tibia is streaked with black internally. Wings rather deeply infuscated, except at base. Face finely vertically shagreened or punctulate with a short median carina below the antennæ; malar space as long as the second flagellar joint; antennal cavities strongly transversely striate; vertex densely and rather finely punctate, the posterior ocelli but little further from one another than from the eye; occipital carina sharp medially, coming very close to the ocelli; occiput finely circularly striate-punctate and shining. Antennæ with all the flagellar joints decidedly longer than thick. Prothorax, mesonotum and scutellum rather finely and very densely but not confluent punctate, less distinctly shining than usual; pronotum with a single transverse carina medially close to the posterior margin, unusually long, three-fourths the length of the mesonotum. Scutellum oval, with the hind edge distinctly margined. Postscutellum somewhat prominent, semicircular, the crenate margin with a median emargination. Propodeum very coarsely rugose with a strong, almost dentiform median carina at each side of which lies a less prominent carinate line; sides also distinctly carinate. Pleuræ punctate, much more sparsely and coarsely so behind. Abdomen short and very strongly clavate, the gaster fully thrice as wide as the petiole. Petiole slightly wider than long, its sides parallel; highly convex above and armed below near apex with a conspicuous long slender erect tooth; abdomen shining at base, more opaque apically, closely punctate, the punctures elongated and giving the appearance of a longitudinal trend to the sculpture. Hind coxæ very finely and densely punctate below and inwardly above, the punctures becoming very sparse and the surface shining outwardly above; upper edge without tooth and broadly rounded, not sharply ridged as in most species. Hind femur very minutely punctate; with a large triangular tooth at the middle, followed by three widely spaced small teeth, followed by five or six still smaller ones becoming minute at the apex of the femur.

Type from Laloki, Papua, 1910 (F. Muir). The body is not conspicuously pubescent, although the face and abdomen are clothed with short, pale glistening hairs. There is no trace of metallic color on the body.

This species is similar to *L. mysolica* Kirby¹ in color and in the dentition of the hind femora. It may be separated readily by the sculpture of the vertex, position of ocelli, and form of the antennæ, as well as by the single carina on the pronotum.

***Leucopsis malabarensis* sp. nov.**

♀. Length 9 mm. Black, with yellow ornamentation and some ferruginous markings, without metallic color. The yellow markings are as follows; antennal scape below, oval spot on each frontal prominence, as long as the scape; two narrow transverse bands on pronotum, the anterior one curved forwards laterally and the posterior one not reaching the sides; a thin streak above the tegulæ and a pair of small spots on middle of mesonotum; narrow arcuate band on posterior margin of scutellum; large triangular mark below tegula; short streak on metapleura above; spot at upper angle of hind coxa; pair of broad lateral stripes on basal half of first abdominal segment, their bases nearer to the median line; narrow band at base of fourth segment, extending halfway down the side; broader, complete apical band on fifth and a pair of short vertical lines just before tip of abdomen; margin of hind femur, except the toothed portion; small elongate spot just above apical teeth; anterior knees, external streak on all tibiæ, not attaining the base on the hind pair. Tegulæ, apices of all coxæ and more or less of fore and middle femora and of all tibiæ rufopiceous; tarsi ferruginous. Antennæ more or less rufous; wings moderately infuscated, except at base. Face microscopically reticulate punctate, external margin of antennal cavity distinctly carinate; punctures of vertex moderately large and well separated; posterior ocelli almost twice as far from each other as from the eye margin; occipital carina rather weak; occiput shining, distinctly striate only at the middle; malar space slightly longer than the second flagellar joint. First three joints of flagellum longer than wide, those beyond quadrate. Pronotum three-

¹Journ. Linn. Soc. vol. 17, p. 69 (1882); cf. also Schletterer, Berliner Entom. Zeits., vol. 35, p. 236 (1890) and Enderlein Arch. f. Naturg., Jahrg. 67, vol. 1, p. 216 (1901).

fourths as long as the mesonotum, with a single carina near the posterior margin which is also quite distinctly carinate; surface shining, with the punctures rather small and closely placed; mesonotum behind and the scutellum more coarsely punctured; postscutellum short, transverse, simple. Propodeum short, finely reticulated, not carinate except for the lateral carinæ which are very distinct although not prominent. Abdomen shining, its punctures not densely placed except at apex; first segment two-fifths the length of the abdomen, twice as long as wide and distinctly broadened at the middle. Ovipositor very long, reaching well beyond the apex of the scutellum. Propleura rather weakly confluent punctate; mesopleura and metapleura more coarsely so, especially the metapleura where the punctures become confluent above. Hind coxa finely densely punctate below, very sparsely above where the surface is highly polished; upper edge very sharp behind, but without tooth. Hind femur broad, including the teeth scarcely twice as long as wide; the surface shining and finely, evenly punctate; basal tooth very small; three succeeding ones long and widely spaced, the third broadest and blunt at apex; following tooth close and somewhat shorter followed by several closely crowded ones that become rapidly shorter. Body with a moderately dense coat of short white pubescence longer on the pleuræ and especially on the sides of the propodeum.

Type from North Malabar, Southern India (A. P. Nathan).

In Schletterer's key (*loc. cit.*, p. 167) this species will run to *L. japonica* Walker from which it differs in the type of dentition of the hind femora. In general appearance and in dentition of the hind femora it is similar to *L. macrodon* Schletterer, but the first abdominal segment is much narrower and longer, the ovipositor is longer and the ocelli much more widely separated. *L. macrodon* is very variable in color, but the spot is reduced only in very dark specimens. From *L. quettaensis* Cam. and *L. nursei* Cam. both from Baluchistan, this species differs conspicuously in color and in the simple postscutellum. *L. viridissima* Enderl. from Ceylon is entirely different from the present form.

Leucospis japonica Walker.

Notes on Chalcidiæ, pt. IV, p. 56 (1871).

This species occurs also in China from whence I have a specimen collected by N. Gist Gee at Soochow.

Leucospis affinis Say.

A female from Jacumba, California (W. M. Wheeler) has the pale whitish ornamentation of *L. bicincta* Viereck. The hind femora have the basal and apical pale areas connected by a pale band below, a condition which seems never to occur in individuals from the eastern states.